

CLAIMS

1. A centralized management authentication apparatus that performs centralized management of authentication to enable a wireless terminal apparatus to perform roaming
5 on a plurality of wireless networks each having at least one radio base station, comprising:

an information acquirer that acquires service area information of each of the plurality of wireless networks and information of a current location of the wireless
10 terminal apparatus;

an authentication information notification destination searcher that specifies at least one of the wireless networks that provides communication services in a peripheral area of the current location of the
15 wireless terminal apparatus based on the acquired service area information and information of the current location; and

an authentication information manager that notifies authentication information required for authentication
20 of the wireless terminal apparatus to the at least one of the wireless networks specified in the authentication information notification destination searcher before the wireless terminal apparatus moves to the at least one of the wireless networks.

25 2. The centralized management authentication apparatus according to claim 1, wherein the plurality of wireless networks has a cellular wireless network

provided with a function of managing the location of the wireless terminal apparatus, and the authentication information notification destination searcher acquires the information of the current location of the wireless 5 terminal apparatus from the cellular wireless network.

3. The centralized management authentication apparatus according to claim 1, wherein the authentication information manager notifies one of the wireless networks that requests the authentication 10 information of the authentication information generated by an authentication information generating apparatus of the cellular wireless network.

4. The centralized management authentication apparatus according to claim 2, wherein the authentication information notification destination searcher acquires the service area information of each 15 of the wireless networks from the cellular wireless network.

5. The centralized management authentication apparatus according to claim 2, wherein a location 20 management apparatus of the cellular wireless network manages the service area information and the information of the current location of the wireless terminal apparatus, and based on the service area information and wireless 25 terminal location information managed by the location management apparatus of the cellular wireless network, the authentication information notification destination

searcher specifies at least one of the wireless networks that provides communication services in a peripheral area of the current location of the wireless terminal apparatus.

5 6. A cellular wireless network comprising the centralized management authentication apparatus according to claim 1.

7. An authentication apparatus comprising:

an authentication information holder that holds
10 authentication information obtained by making a request for authentication information to a centralized management authentication apparatus that performs centralized management of authentication in movement to each of a plurality of wireless networks of a wireless
15 terminal apparatus; and

an authentication performer that uses the authentication information held in the authentication information holder in authentication of the wireless terminal apparatus in a service area of a movement
20 destination when the wireless terminal apparatus moves between service areas of a wireless network to which the authentication apparatus belongs.

8. A wireless terminal apparatus comprising:

a receiver that receives a signal transmitted from
25 a GPS (Global Positioning System) satellite;
a current location measure that measures a current location using the signal received from the GPS satellite;

and

a current location information notifier that notifies a cellular wireless network of the current location measured in the current location measurer.

5 9. A radio base station constituting a wireless network, comprising:

a receiver that receives a signal transmitted from a GPS (Global Positioning System) satellite;

10 a current location measure that measures a current location using the signal received from the GPS satellite; and

a current location information notifier that notifies a cellular wireless network of the current location measured in the current location measurer.

15 10. A wireless communication system comprising:

the cellular wireless network according to claim 6;

the authentication apparatus according to claim 7;

20 the wireless terminal apparatus according to claim 8; and

the radio base station according to claim 9.

11. An authentication provider unit that manages entire wireless networks, comprising the centralized management authentication apparatus according to claim 1.

25 12. The authentication provider unit according to claim 11, further comprising:

a location management apparatus that manages the

service area information of each of a plurality of wireless networks and current location information of a wireless terminal apparatus,

wherein the location management apparatus acquires the
5 location information of the wireless terminal apparatus from a cellular wireless network that performs location management of the wireless terminal apparatus.

13. A wireless communication system comprising:

the authentication apparatus according to claim 7;
10 the wireless terminal apparatus according to claim 8;

the radio base station according to claim 9; and
the authentication provider unit according to claim
11.

15 14. A wireless terminal authentication method in a wireless communication system comprised of a plurality of wireless networks each having at least one radio base station, comprising:

an information acquiring step of acquiring location
20 information of a wireless terminal apparatus and service area information of each of the plurality of wireless networks;

an identifying step of identifying at least one of the wireless networks that provides communication
25 services in a peripheral area of a location where the wireless terminal apparatus exists based on the acquired location information of the wireless terminal apparatus

and service area information of each of the plurality of wireless networks; and

an authentication information notifying step of notifying the identified wireless network of 5 authentication information of the wireless terminal apparatus before the wireless terminal apparatus moves to the network.